

INDEX

JANUARY THROUGH DECEMBER 1969—VOLUME 77

SAE JOURNAL SUBJECT INDEX

A

Aerodynamics

If automobile body is split into zones and each zone rated for aerodynamic character, the vehicle's automobile drag coefficient can be predicted within 7%.

JL69-6-52 694564

Loads on 15 types of aircraft are closer to design limit despite large design envelope than are loads on large transport aircraft.

JL69-8-31 694580

Three-dimensional potential flow method predicts V/STOL aerodynamics.

JL69-9-44 694591

Accuracy of car wind tunnel tests not aided by moving ground plane.

JL69-9-64 694596

Agricultural Machinery

New tread pattern, plus well-braced lug, of R-1 tractor tire improves both traction and wear resistance.

JL69-2-58 694524

New techniques are being studied to increase productivity of farm and earthmoving tractors.

JL69-3-56 694533

Air Cargo

Total transportation benefits from fresh SAE contributions.

JL69-6-24 694558

Aircraft

see:

Helicopters

Military Aircraft

STOL Aircraft

Supersonic Transports

VTOL Aircraft

Aircraft Design

Combustor design changes offer most promise in reducing smoke from gas turbine engines. Fuel additives have yet to prove effective.

JL69-6-60 694566

Loads on 15 types of aircraft are closer to design limit despite large design envelope than are loads on large transport aircraft.

JL69-8-31 694580

Aircraft Equipment

Weight is saved when flywheel energy storage unit is used to help aircraft secondary power systems meet peak power demands.

JL69-1-64 694512

Laser gyro eliminates all moving parts to form ideal system.

JL69-2-52 694522

Nitrogen inerting of aircraft fuel tanks protects against fires and explosions.

JL69-6-49 694563

Dinade system is anticollision device for small aircraft.

JL69-9-40 694589

Simple on-off fuel system that does not require in-flight management has been developed for light aircraft having multiple fuel tanks.

JL69-12-54 694631

Aircraft Escape

Intra-crew alerting device gives emergency evacuation signal on flight deck and at forward and rear hostess jump seats.

JL69-3-54 694532

Aircraft Instruments

Inertial navigator gives precise dependable navigation anywhere in the world. Flight tests show accuracy is sufficient.

JL69-3-66 694536

Airborne cooperative time/frequency collision avoidance systems have been specified by airlines. Prototypes begin tests in 1969.

JL69-10-56 694601

Astrolog—American Airlines' new advanced flight recorder has capacity to continuously monitor both pilot and aircraft performance.

JL69-11-38 694612

Aircraft Maintenance

Emphasis is on maintainability when repairing jet engines on the wing.

JL69-1-51 694507

Aircraft Performance

Inertial navigator gives precise dependable navigation anywhere in the world. Flight tests show accuracy is sufficient.

JL69-3-66 694536

Concorde, 747, C5-A test pilots report on their experiences during initial test flights.

JL69-7-30 694570

Loads on 15 types of aircraft are closer to design limit despite large design envelope than are loads on large transport aircraft.

JL69-8-31 694580

Astrolog—American Airlines' new advanced flight recorder has capacity to continuously monitor both pilot and aircraft performance.

JL69-11-38 694612

Aircraft Safety

Intra-crew alerting device gives emergency evacuation signal on flight deck and at forward and rear hostess jump seats.

JL69-3-54 694532

Suitable restraint devices and proper design can make many light plane crashes survivable.

JL69-8-56 694586

Airborne cooperative time/frequency collision avoidance systems have been specified by airlines. Prototypes begin tests in 1969.

JL69-10-56 694601

Aircraft Structures

Future of V/STOL aircraft may depend on use of filamentary composites.

JL69-10-64 694604

Aircraft Wings

see:

Wings/Aircraft

Aircrew

Concorde, 747, C5-A test pilots report on their experiences during initial test flights.

JL69-7-30 694570

Astrolog—American Airlines' new advanced flight recorder has capacity to continuously monitor both pilot and aircraft performance.

JL69-11-38 694612

Airline Operations

see also:

Air Traffic Control

Emphasis is on maintainability when repairing jet engines on the wing.

JL69-1-51 694507

Air Navigation

Inertial navigator gives precise dependable navigation anywhere in the world. Flight tests show accuracy is sufficient.

JL69-3-66 694536

Air Pollution

see also:

Diesel Smoke

Exhaust Gases

Combustor design changes offer most promise in reducing smoke from gas turbine engines. Fuel additives have yet to prove effective.

JL69-6-60 694566

INDEX

JANUARY THROUGH DECEMBER 1969—VOLUME 77

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A

Aerodynamics

If automobile body is split into zones and each zone rated for aerodynamic character, the vehicle's automobile drag coefficient can be predicted within 7%.

JL69-6-52 694564

Loads on 15 types of aircraft are closer to design limit despite large design envelope than are loads on large transport aircraft.

JL69-8-31 694580

Three-dimensional potential flow method predicts V/STOL aerodynamics.

JL69-9-44 694591

Accuracy of car wind tunnel tests not aided by moving ground plane.

JL69-9-64 694596

Agricultural Machinery

New tread pattern, plus well-braced lug, of R-1 tractor tire improves both traction and wear resistance.

JL69-2-58 694524

New techniques are being studied to increase productivity of farm and earthmoving tractors.

JL69-3-56 694533

Air Cargo

Total transportation benefits from fresh SAE contributions.

JL69-6-24 694558

Aircraft

see:

Helicopters
Military Aircraft
STOL Aircraft
Supersonic Transports
VTOL Aircraft

Aircraft Design

Combustor design changes offer most promise in reducing smoke from gas turbine engines. Fuel additives have yet to prove effective.

JL69-6-60 694566

Loads on 15 types of aircraft are closer to design limit despite large design envelope than are loads on large transport aircraft.

JL69-8-31 694580

Aircraft Equipment

Weight is saved when flywheel energy storage unit is used to help aircraft secondary power systems meet peak power demands.

JL69-1-64 694512

Laser gyro eliminates all moving parts to form ideal system.

JL69-2-52 694522

Nitrogen inerting of aircraft fuel tanks protects against fires and explosions.

JL69-6-49 694563

Dinade system is anticollision device for small aircraft.

JL69-9-40 694589

Simple on-off fuel system that does not require in-flight management has been developed for light aircraft having multiple fuel tanks.

JL69-12-54 694631

Aircraft Escape

Intra-crew alerting device gives emergency evacuation signal on flight deck and at forward and rear hostess jump seats.

JL69-3-54 694532

Aircraft Instruments

Inertial navigator gives precise dependable navigation anywhere in the world. Flight tests show accuracy is sufficient.

JL69-3-66 694536

Airborne cooperative time/frequency collision avoidance systems have been specified by airlines. Prototypes begin tests in 1969.

JL69-10-56 694601

Astrolog—American Airlines' new advanced flight recorder has capacity to continuously monitor both pilot and aircraft performance.

JL69-11-38 694612

Aircraft Maintenance

Emphasis is on maintainability when repairing jet engines on the wing.

JL69-1-51 694507

Aircraft Performance

Inertial navigator gives precise dependable navigation anywhere in the world. Flight tests show accuracy is sufficient.

JL69-3-66 694536

Concorde, 747, C5-A test pilots report on their experiences during initial test flights.

JL69-7-30 694570

Loads on 15 types of aircraft are closer to design limit despite large design envelope than are loads on large transport aircraft.

JL69-8-31 694580

Astrolog—American Airlines' new advanced flight recorder has capacity to continuously monitor both pilot and aircraft performance.

JL69-11-38 694612

Aircraft Safety

Intra-crew alerting device gives emergency evacuation signal on flight deck and at forward and rear hostess jump seats.

JL69-3-54 694532

Suitable restraint devices and proper design can make many light plane crashes survivable.

JL69-8-56 694586

Airborne cooperative time/frequency collision avoidance systems have been specified by airlines. Prototypes begin tests in 1969.

JL69-10-56 694601

Aircraft Structures

Future of V/STOL aircraft may depend on use of filamentary composites.

JL69-10-64 694604

Aircraft Wings

see:

Wings/Aircraft

Aircrew

Concorde, 747, C5-A test pilots report on their experiences during initial test flights.

JL69-7-30 694570

Astrolog—American Airlines' new advanced flight recorder has capacity to continuously monitor both pilot and aircraft performance.

JL69-11-38 694612

Airline Operations

see also:

Air Traffic Control

Emphasis is on maintainability when repairing jet engines on the wing.

JL69-1-51 694507

Air Navigation

Inertial navigator gives precise dependable navigation anywhere in the world. Flight tests show accuracy is sufficient.

JL69-3-66 694536

Air Pollution

see also:

Diesel Smoke
Exhaust Gases

Combustor design changes offer most promise in reducing smoke from gas turbine engines. Fuel additives have yet to prove effective.

JL69-6-60 694566

By burning a lean mixture ratio which supplies equal amounts of CO and NO it's possible to eliminate both gases from engine exhaust.
JL69-7-28 694569

Airports

see also:

Runways

Downwash of V/STOL aircraft depends on gross weight rather than disc loading velocities which can reach 40 knots.
JL69-4-56 694545

Air Traffic Control

Dinade system is anticollision device for small aircraft.
JL69-9-40 694589

Alcohols

Department of Transportation has reported to Congress on the role of alcohol in traffic accidents.
JL69-1-50 694506

Alloy Steels

Nickel-copper-columbium steel combines high strength and impact resistance with excellent weldability and cold formability.
JL69-2-38 694517

Fatigue life and notch toughness of spring steel much improved by modified ausforming process.
JL69-3-44 694529

Transition temperature of MN-MO armor steel tempered in tempered martensite embrittling range is lowered by warm working, thus improving in toughness.
JL69-3-60 694534

Elastic modulus and Poisson's ratio of sintered nickel steels depend on density alone. Heat treatment, alloy content and density all affect other mechanical properties.
JL69-7-45 694575

Aluminum Alloys

General Motors aluminum-babbitt bearings offer economy over heavy-duty units without sacrifice of performance.
JL69-6-34 694560

Quenching bath of liquid nitrogen produces almost negligible distortion in sheet aluminum parts, whereas they must be straightened after water quenching.
JL69-7-25 694568

Antifreeze

Sudden compositional change of coolant causes elastomeric seal to swell or shrink, which if elastomer has hardened may cause seal to fail.
JL69-7-37 694572

Antiskid Devices

Vacuum-electronic device provides rear-wheel antilocking during sudden brake applications.
JL69-11-63 694620

Assembling

1970 passenger-car engineering highlights.
JL69-10-35 694598

Attitude Control

Inertial navigator gives precise dependable navigation anywhere in the world. Flight tests show accuracy is sufficient.
JL69-3-66 694536

Automatic Transmission Fluids

Three mechanical tests predict viscosity losses of oils in service more accurately than sonic method.
JL69-5-36 694549

Automatic Transmissions

European cars reveal variety of design changes and several entirely new models.
JL69-2-20 694514

Auxiliary Power

Weight is saved when flywheel energy storage unit is used to help aircraft secondary power systems meet peak power demands.
JL69-1-64 694512

Aviation Fuels

see:

Jet Fuels

Axles

1970 passenger-car engineering highlights.
JL69-10-35 694598

B

Batteries

New oil viscosity determination may lick hot engine winter starting problems.
JL69-1-35 694503

Sealed nickel-cadmium batteries improved for space are also being applied in aircraft.
JL69-3-52 694531

New battery charging system eliminates overcharging and undercharging over a wide temperature range while minimizing charging time.
JL69-6-31 694559

Plastic battery cases with thinner walls and partitions leave more room for plates and acid—to improve battery electrical performance.
JL69-9-52 694592

Progress in development may some day converge with harsher pollution control requirements to make the electric car competitive.
JL69-12-38 694626

Bearings

General Motors aluminum-babbitt bearings offer economy over heavy-duty units without sacrifice of performance.
JL69-6-34 694560

Beryllium

Difficulties in inspecting beryllium parts by ultrasonic and radiographic techniques are being overcome with improved techniques and equipment.
JL69-11-27 694609

Bodies

European cars reveal variety of design changes and several entirely new models.
JL69-2-20 694514

If automobile body is split into zones and each zone rated for aerodynamic character, the vehicle's automobile drag coefficient can be predicted within 7%.
JL69-6-52 694564

1970 passenger-car engineering highlights.
JL69-10-35 694598

Bolts

Proper bolting system design can greatly extend gasket life—and its overall spring constant is one of the most important factors to consider.
JL69-3-64 694535

Bonding

see:

Welding

Brakes

see also:

Disc Brakes

Larger size of British trucks demands more powerful engines, better brakes.
JL69-1-24 694501

European cars reveal variety of design changes and several entirely new models.
JL69-2-20 694514

Encouraging results from flight tests prompted construction of a test track to investigate air jets for braking on wet pavements. A single, inclined nozzle produced the best traction.
JL69-8-54 694585

Longer combination trucks—tractor and two or three trailers have stopping distance comparable to shorter units.
JL69-9-68 694597

Vacuum-electronic device provides rear-wheel antilocking during sudden brake applications.
JL69-11-63 694620

Procedures developed to measure wet skid resistance of vehicle-tire-road system.
JL69-12- 694632

Bus Design

Larger size of British trucks demands more powerful engines, better brakes.
JL69-12-58 694501

Bus Design

Larger size of British trucks demands more powerful engines, better brakes.
JL69-1-24 694501

Business Aircraft

Loads on 15 types of aircraft are closer to design limit despite large design envelope than are loads on large transport aircraft.
JL69-8-31 694580

Bus Operation/Bus Performance/

Engineering improvements in bus and other automotive transportation are needed to serve city goals and rider demands better.
JL69-1-62 694511

C

Camshafts

Fiat 124 AC engine features redesigned thermostat and tappets.
JL69-5-35 694548

Carburetors/Carburetion/

Many possibilities exist for eliminating major pollutants from exhaust gas.
JL69-3-34 694525

Small cars emit less CO and HC when using duplex carburetion to distribute fuel more evenly.
JL69-4-50 694543

Cleaning

see:

Filtering/Filters

Coating

see also:

Protective Coatings

Coating male portion of splines with nylon lowers friction level reducing galling, extending life.
JL69-2-50 694521

Cold Weather Operation

New oil viscosity determination may lick hot engine winter starting problems.

JL69-1-35 694503

Cold cranking simulator accurately and consistently predicts low temperature viscosity of engine oils.

JL69-4-33 694540

Minor changes allow diesel trucks with critical fuel systems to operate satisfactorily on flow-improved high cloud point fuels, at temperatures down to -30 F.

JL69-8-48 694584

Combustion

Sonic throttling intake valves give lean part-load spark-ignition engine operation.

JL69-1-45 694505

New MAN FM combustion system allows knockless burning of any gasoline from highest octane to poorest grade. Advantages include low sfc, peak pressures, and exhaust emissions.

JL69-6-36 694561

Combustion Chambers

Booster engines can be used on commercial transports to increase thrust during take-off and initial climb. This limited duty cycle means some parts can be shorter or simpler.

JL69-7-42 694574

Computer Applications

Effectiveness and speed of computer program for airfoil analysis and design are enhanced with computer graphics.

JL69-2-44 694519

Electronics help speed General Motors' engine mount design test and shift Ford's fatigue tests from track to the laboratory.

JL69-4-46 694542

SAE eyellipse is repositioned by simple model so that eyes may be positioned even with head turned.

JL69-5-39 694550

Four computer programs design and evaluate inside and outside rear view mirrors. Possible obstructions are considered.

JL69-6-42 694562

Computers are being applied to dimensional measurement in production of discrete parts.

JL69-11-32 694611

Computer Simulation

Computer simulation predicts areas of accident potential for platoons of vehicles travelling at high speeds on freeways.

JL69-8-36 694581

Two methods of measuring dynamic pavement loading by heavy trucks are developed.

JL69-11-60 694619

Mathematical model for predicting head motion in rear-end collisions shows effectiveness of yielding seatback if properly damped.

JL69-12-24 694622

Connectors

see:

Fasteners

Construction Equipment Design

see also:

Tractor Scrapers

New techniques are being studied to increase productivity of farm and earthmoving tractors.

JL69-3-56 694533

Contamination

see also:

Air Pollution

Diesel-engine piston rings show high sensitivity to contaminated fuel.

JL69-10-54 694600

Control System

see:

Air Traffic Control
Attitude Control
Electric Control/Electronic
Fuel Control
Quality Controls

Cooling

see:

Engine Cooling
Transpiration Cooling

Cooling Systems

Sudden compositional change of coolant causes elastomeric seal to swell or shrink, which if elastomer has hardened may cause seal to fail.

JL69-7-37 694572

Copper

Many variables can aid formation of deposits in empty jet fuel tanks.

JL69-11-50 694616

Crankcase Oils

New oil viscosity determination may lick hot engine winter starting problems.

JL69-1-35 694503

Cold cranking simulator accurately and consistently predicts low temperature viscosity of engine oils.

JL69-4-33 694540

Three mechanical tests predict viscosity losses of oils in service more accurately than sonic method.

JL69-5-36 694549

Aromatic compounds in fuels identified as main precursors of engine varnish.

JL69-7-52 694577

Diesel-engine piston rings show high sensitivity to contaminated fuel.

JL69-10-54 694600

Crankshafts

Combination damper could cure many crankshaft vibrations.

JL69-10-69 694605

Crash Research

Two restraint systems designed solely for children are described. Rules for use of seat belt with growing child given.

JL69-1-53 694508

Tests show vehicle passengers have best chance of survival with inflatable air bag restraint system.

JL69-1-58 694510

Truck safety record depends on elimination of basic accident causes and injury-producing causes.

JL69-2-40 694518

Rigid seat with 28 in. high seatback protects occupant in rear-end collisions at impact speeds over 30 mph.

JL69-4-20 694537

Energy-absorbing steering column reduces injury rate but drivers now impact new areas of vehicle interior.

JL69-5-60 694556

Postcrash fire studies show need for rear-seat fire wall and rupture-proof fuel tank.

JL69-7-18 694567

Mathematical modeling approach suggested to assimilate data from vehicle safety research.

JL69-7-40 694573

National Bureau of Standards automobile safety research has disclosed how differently anthropomorphic dummies respond from humans in tests of seat belts and harnesses.

JL69-7-48 694576

Computer simulation predicts areas of accident potential for platoons of vehicles travelling at high speeds on freeways.

JL69-8-36 694581

Suitable restraint devices and proper design can make many light plane crashes survivable.

JL69-8-56 694586

Chimpanzees survive deceleration of 150 G with aid of contoured synthetic foam restraint.

JL69-9-62 694595

New laboratory tools aid study of localized head and facial trauma during vehicle impact.

JL69-11-22 694608

Mathematical model for predicting head motion in rear-end collisions shows effectiveness of yielding seatback if properly damped.

JL69-12-24 694622

Wayne horizontal accelerator mechanism (WHAM II) accelerates or decelerates sled or modified automobile on its own wheels up to 60G, to simulate crashes.

JL69-12-43 694634

Cryogenics

Quenching bath of liquid nitrogen produces almost negligible distortion in sheet aluminum parts, whereas they must be straightened after water quenching.

JL69-7-25 694568

Cylinders

see:

Combustion Chambers

D

Data Acquisition

Astrolog—American Airlines' new advanced flight recorder has capacity to continuously monitor both pilot and aircraft performance.

JL69-11-38 694612

Data Processing

Astrolog—American Airlines' new advanced flight recorder has capacity to continuously monitor both pilot and aircraft performance.

JL69-11-38 694612

Data Recording

Astrolog—American Airlines' new advanced flight recorder has capacity to continuously monitor both pilot and aircraft performance.

JL69-11-38 694612

Design

see also:

Aircraft Design
Construction Equipment Design
Passenger Car Design
Truck Design

For a proper prediction of the probability of failure, an estimate must be made of both mean values and scatter in stress and strength.
JL69-4-38 694541

Engineers are finding that sociological, political, and humanistic changes taking place may have more significance in determining what is the optimum design than previously.
JL69-12-18 694621

Diesel Engines

Larger size of British trucks demands more powerful engines, better brakes.
JL69-1-24 694501

New MAN FM combustion system allows knockless burning of any gasoline from highest octane to poorest grade. Advantages include low sfc, peak pressures, and exhaust emissions.
JL69-6-36 694561

Diesel Fuels

Minor changes allow diesel trucks with critical fuel systems to operate satisfactorily on flow-improved high cloud point fuels, at temperatures down to -30 F.
JL69-8-48 694584

Diesel-engine piston rings show high sensitivity to contaminated fuel.
JL69-10-54 694600

Diesel Smoke

Aesthetic diesel smoke levels in both acceleration and lug down are set to begin in January 1970.
JL69-4-58 694546

Diesel fuel injected late in the power stroke meets ideal conditions for forming carbon and smoke. Lower pressure and temperature mean less atomization and evaporation.
JL69-12-42 694628

Disc Brakes

Disc brakes with solid discs fade less at first but vented discs do better thereafter.
JL69-10-72 694607

Driver Behavior

Department of Transportation has reported to Congress on the role of alcohol in traffic accidents.
JL69-1-50 694506

Lane change maneuver test measures extent to which car-driver performance suffers as tire pressure balance is changed.
JL69-1-56 694509

Computer simulation predicts areas of accident potential for platoons of vehicles travelling at high speeds on freeways.
JL69-8-36 694581

Recent test data on plane and curved rear view mirrors, developed at the University of Michigan, was discussed at a meeting of the Driver Vision and Rear Vision Subcommittees.
JL69-11-48 694615

Driveshafts

Coating male portion of splines with nylon lowers friction level reducing galling, extending life.
JL69-2-50 694521

E

Education

Engineering executive comments on final Goals report.
JL69-2-49 694520

Fuel-engine research is well suited for investigations in universities.
JL69-3-51 694530

Total transportation benefits from fresh SAE contributions.
JL69-6-24 694558

Elastomers

Sudden compositional change of coolant causes elastomeric seal to swell or shrink, which if elastomer has hardened may cause seal to fail.
JL69-7-37 694572

Electric Control/Electronic/

New Bureau of Public Roads highway traffic systems will aid drivers, provide traffic control.
JL69-2-56 694523

Electrical system works as well as mechanical drive train in tracked personnel carrier.
JL69-11-56 694617

Electric Vehicles

Brushless electric motor has been designed especially for heavy duty vehicles. It can be incorporated into integral wheel drive units.
JL69-5-46 694552

Japanese development of electric vehicles is progressing.
JL69-8-43 694583

Progress in development may some day converge with harsher pollution control requirements to make the electric car competitive.
JL69-12-38 694626

Electron Beams

High turbine inlet temperature doubles specific horsepower of small turbine engines, but blade cooling is a must.
JL69-5-65 694557

Electron Microscopy

Easy sample preparation, 30,000 magnification, and fantastic depth of field boost soaring popularity of scanning electron microscope.
JL69-12-33 694625

Energy Storage

Weight is saved when flywheel energy storage unit is used to help aircraft secondary power systems meet peak power demands.
JL69-1-64 694512

Engine Cooling

High turbine inlet temperature doubles specific horsepower of small turbine engines, but blade cooling is a must.
JL69-5-65 694557

Engine Deposits

Aromatic compounds in fuels identified as main precursors of engine varnish.
JL69-7-52 694577

Engine Oils

see:

Crankcase Oils

Engineers

see also:

Education

Engineering executive comments on final Goals report.
JL69-2-49 694520

New tools revealed for engineering management use.
JL69-10-57 694602

Nontechnical executives are sometimes responsible for directing technical people. One such executive tells how and why such a combination can work successfully.
JL69-11-30 694610

Ideal technical-managerial mix exists for all supervisor levels.
JL69-11-40 694613

Engineers are finding that sociological, political, and humanistic changes taking place may have more significance in determining what is the optimum design than previously.
JL69-12-18 694621

Reorientation is basic for an engineer seeking success in management.
JL69-12-36 694630

Engine Mounting

Electronics help speed General Motors' engine mount design test and shift Ford's fatigue tests from track to the laboratory.
JL69-4-46 694542

Engine Tests

Cold cranking simulator accurately and consistently predicts low temperature viscosity of engine oils.
JL69-4-33 694540

Engines

see:

Diesel Engines
Gasoline Engines
Multifuel Engines
Small Engines
Spark Ignition Engines
Stirling Cycle Engines
Turbine Engines
Turbojet Engines
Turboprop Engines
Wankel Rotating Combustion Engines

Evaporative Emissions

1970 passenger-car engineering highlights.
JL69-10-35 694598

Exhaust Gases

Stirling engine operates quietly with almost no smoke and odor and with little exhaust emission.
JL69-1-40 694504

Many possibilities exist for eliminating major pollutants from exhaust gas.
JL69-3-34 694525

Small cars emit less CO and HC when using duplex carburetion to distribute fuel more evenly.
JL69-4-50 694543

New MAN FM combustion system allows knockless burning of any gasoline from highest octane to poorest grade. Advantages include low sfc, peak pressures, and exhaust emissions.
JL69-6-36 694561

Combustor design changes offer most promise in reducing smoke from gas turbine engines. Fuel additives have yet to prove effective.
JL69-6-60 694566

By burning a lean mixture ratio which supplies equal amounts of CO and NO it's possible to eliminate both gases from engine exhaust.
JL69-7-28 694569

Description and function of two emission control devices designed especially for needs of small displacement engine.
JL69-8-40 694582

Use of constant-volume sampler to weigh exhaust emissions poses variety of problems.
JL69-12-34 694624

Diesel fuel injected late in the power stroke meets ideal conditions for forming carbon and smoke. Lower pressure and temperature mean less atomization and evaporation.
JL69-12-42 694628

Exhaust Systems

Booster engines can be used on commercial transports to increase thrust during take-off and initial climb. This limited duty cycle means some parts can be shorter or simpler.
JL69-7-42 694574

Extrusion

Accurately finished tubing comes from hydrostatic extrusion press.
JL69-11-58 694618

F

Failure

For a proper prediction of the probability of failure, an estimate must be made of both mean values and scatter in stress and strength.
JL69-4-38 694541

Sudden compositional change of coolant causes elastomeric seal to swell or shrink, which if elastomer has hardened may cause seal to fail.
JL69-7-37 694572

Fasteners

see also:

Bolts Rivets

Titanium fastener and use of interference-fit systems cut C-5A structure weight 4%.
JL69-4-54 694544

Fatigue

Fatigue life and notch toughness of spring steel much improved by modified ausforming process.
JL69-3-44 694529

Electronics help speed General Motors' engine mount design test and shift Ford's fatigue tests from track to the laboratory.
JL69-4-46 694542

Filament Reinforced Composites

Boron-epoxy composite material saves wing box extension weight on F-111B aircraft.
JL69-5-42 694551

Future of V/STOL aircraft may depend on use of filamentary composites.
JL69-10-64 694604

Filtering/Filters/

Minor changes allow diesel trucks with critical fuel systems to operate satisfactorily on flow-improved high cloud point fuels, at temperatures down to -30 F.
JL69-8-48 694584

Fire Prevention

Nitrogen inerting of aircraft fuel tanks protects against fires and explosions.
JL69-6-49 694563

Postcrash fire studies show need for rear-seat fire wall and rupture-proof fuel tank.
JL69-7-18 694567

Flammability

Nitrogen inerting of aircraft fuel tanks protects against fires and explosions.
JL69-6-49 694563

Flight Deck Signals

Airborne cooperative time/frequency collision avoidance systems have been specified by airlines. Prototypes begin tests in 1969.
JL69-10-56 694601

Flight Recording

Loads on 15 types of aircraft are closer to design limit despite large design envelope than are loads on large transport aircraft.
JL69-8-31 694580

Astrolog—American Airlines' new advanced flight recorder has capacity to continuously monitor both pilot and aircraft performance.
JL69-11-38 694612

Flight Testing

Inertial navigator gives precise dependable navigation anywhere in the world. Flight tests show accuracy is sufficient.
JL69-3-66 694536

Concorde, 747, C-5A test pilots report on their experiences during initial test flights.
JL69-7-30 694570

Loads on 15 types of aircraft are closer to design limit despite large design envelope than are loads on large transport aircraft.
JL69-8-31 694580

Flywheels

Weight is saved when flywheel energy storage unit is used to help aircraft secondary power systems meet peak power demands.
JL69-1-64 694512

Friction

Coating male portion of splines with nylon lowers friction level reducing galling, extending life.
JL69-2-50 694521

New techniques are being studied to increase productivity of farm and earthmoving tractors.
JL69-3-56 694533

Friction Materials

Propose standard fixture for testing friction materials.
JL69-12-62 694627

Fuel Additives

Combustor design changes offer most promise in reducing smoke from gas turbine engines. Fuel additives have yet to prove effective.
JL69-6-60 694566

Aromatic compounds in fuels identified as main precursors of engine varnish.
JL69-7-52 694577

Minor changes allow diesel trucks with critical fuel systems to operate satisfactorily on flow-improved high cloud point fuels, at temperatures down to -30 F.
JL69-8-48 694584

Fuel Control

Booster engines can be used on commercial transports to increase thrust during take-off and initial climb. This limited duty cycle means some parts can be shorter or simpler.
JL69-7-42 694574

Fuel Systems

see also:

Carburetors/Carburetion/

Nitrogen inerting of aircraft fuel tanks protects against fires and explosions.
JL69-6-49 694563

Postcrash fire studies show need for rear-seat fire wall and rupture-proof fuel tank.
JL69-7-18 694567

Minor changes allow diesel trucks with critical fuel systems to operate satisfactorily on flow-improved high cloud point fuels, at temperatures down to -30 F.
JL69-8-48 694584

Many variables can aid formation of deposits in empty jet fuel tanks.
JL69-11-50 694616

Simple on-off fuel system that does not require in-flight management has been developed for light aircraft having multiple fuel tanks.
JL69-12-54 694631

Fuels

see:

Diesel Fuels Gasoline Hydrocarbon Fuels Jet Fuels

G

Gaskets

Proper bolting system design can greatly extend gasket life—and its overall spring constant is one of the most important factors to consider.
JL69-3-64 694535

Sealing, erosion, crush, and extrusion resistance tests, and differential thermal analysis are supplementing the standard tests for evaluating gasket materials.
JL69-8-59 694587

Gasoline

Aromatic compounds in fuels identified as main precursors of engine varnish.
JL69-7-52 694577

Gasoline Engines

European cars reveal variety of design changes and several entirely new models.
JL69-2-20 694514

New MAN FM combustion system allows knockless burning of any gasoline from highest octane to poorest grade. Advantages include low sfc, peak pressures, and exhaust emissions.
JL69-6-36 694561

1970 passenger-car engineering highlights.
JL69-10-35 694598

Glass

Lower laceration danger from chemically strengthened windshield.
JL69-10-70 694606

Graphic Methods

Effectiveness and speed of computer program for airfoil analysis and design are enhanced with computer graphics.
JL69-2-44 694519

H

Heat Resistant Materials

see:

Refractory Metals

Heat Treatment

Transition temperature of MN-MO armor steel tempered in tempered martensite embrittling range is lowered by warm working, thus improving in toughness.
JL69-3-60 694534

Quenching bath of liquid nitrogen produces almost negligible distortion in sheet aluminum parts, whereas they must be straightened after water quenching.
JL69-7-25 694568

Helicopters

V/STOL's could service city-center to city-center routes and provide shuttle service between the airport and town.
JL69-2-34 694515

Crashworthiness and tolerance to damage from small arms fire can be designed into wing aircraft.
JL69-12-28 694623

Hoses

Sudden compositional change of coolant causes elastomeric seal to swell or shrink, which if elastomer has hardened may cause seal to fail.
JL69-7-37 694572

Hot Forming

Fatigue life and notch toughness of spring steel much improved by modified ausforming process.
JL69-3-44 694529

Human Engineering

SAE eyellipse is repositioned by simple model so that eyes may be positioned even with head turned.
JL69-5-39 694550

Human Injuries

Energy-absorbing steering column reduces injury rate but drivers now impact new areas of vehicle interior.
JL69-5-60 694556

Safer instrument panel designs are producing fewer leg injuries in vehicle accidents.
JL69-7-32 694571

New laboratory tools aid study of localized head and facial trauma during vehicle impact.
JL69-11-22 694608

Hydraulic Systems

New vibration-absorbing suspension eliminates rough ride of tractor-scraper, thus reducing both operator and machine structural fatigue.
JL69-9-34 694588

Hydrocarbon Fuels

Many variables can aid formation of deposits in empty jet fuel tanks.
JL69-11-50 694616

Ignition Systems

see also:

Spark Plugs

New NSU double bank rotary engine has new dual ignition system and cast-iron abax seals.
JL69-4-30 694539

Impact Sleds

Wayne horizontal accelerator mechanism (WHAM II) accelerates or decelerates sled or modified automobile on its own wheels up to 60G, to simulate crashes.
JL69-12-43 694634

Impact Tests

Two restraint systems designed solely for children are described. Rules for use of seat belt with growing child given.
JL69-1-53 694508

Tests show vehicle passengers have best chance of survival with inflatable air bag restraint system.
JL69-1-58 694510

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JL69-3-60 694534

Postcrash fire studies show need for rear-seat fire wall and rupture-proof fuel tank.
JL69-7-18 694567

National Bureau of Standards automobile safety research has disclosed how differently anthropomorphic dummies respond from humans in tests of seat belts and harnesses.
JL69-7-48 694576

Chimpanzees survive deceleration of 150 G with aid of contoured synthetic foam restraint.
JL69-9-62 694595

Lower laceration danger from chemically strengthened windshield.
JL69-10-70 694606

Inspection

see also:

Quality Control Radiography

Computers are being applied to dimensional measurement in production of discrete parts.
JL69-11-32 694611

Instrumentation

Use of constant-volume sampler to weigh exhaust emissions poses variety of problems.
JL69-12-34 694624

Instruments

see:

Smokemeters Viscometers

J

Jet Aircraft Operation

Emphasis is on maintainability when repairing jet engines on the wing.
JL69-1-51 694507

Concorde, 747, C-5A test pilots report on their experiences during initial test flights.
JL69-7-30 694570

Jet Fuels

Combustor design changes offer most promise in reducing smoke from gas turbine engines. Fuel additives have yet to prove effective.
JL69-6-60 694566

Many variables can aid formation of deposits in empty jet fuel tanks.
JL69-11-50 694616

L

Lasers

Laser gyro eliminates all moving parts to form ideal system.
JL69-2-52 694522

Lead Alloys

General Motors aluminum-babbitt bearings offer economy over heavy-duty units without sacrifice of performance.
JL69-6-34 694560

Life Support Systems

No drying of gas stream needed when Gat-O-Sorb is used in regenerable carbon dioxide control systems for spacecraft.
JL69-1-32 694502

Lighting

European cars reveal variety of design changes and several entirely new models.
JL69-2-20 694514

Intra-crew alerting device gives emergency evacuation signal on flight deck and at forward and rear hostess jump seats.
JL69-3-54 694532

Lubricants

see also:

Automatic Transmission Fluids Crankcase Oils Oil Additives Turbine Lubricants

Three mechanical tests predict viscosity losses of oils in service more accurately than sonic method.
JL69-5-36 694549

Lubrication

see:

Spacecraft Lubrication

Lubrication Systems

Olympus 593 lubrication system is specially designed for very high-temperature operation.
JL69-5-52 694553

M

Maintainability

Emphasis is on maintainability when repairing jet engines on the wing.
JL69-1-51 694507

Management

New tools revealed for engineering management use.
JL69-10-57 694602

Nontechnical executives are sometimes responsible for directing technical people. One such executive tells how and why such a combination can work successfully.
JL69-11-30 694610

Ideal technical-managerial mix exists for all supervisor levels.
JL69-11-40 694613

Reorientation is basic for an engineer seeking success in management.
JL69-12-36 694630

Manifolds

Small cars emit less CO and HC when using duplex carburetion to distribute fuel more evenly.
JL69-4-50 694543

Manikins

National Bureau of Standards automobile safety research has disclosed how differently anthropomorphic dummies respond from humans in tests of seat belts and harnesses.
JL69-7-48 694576

Materials Testing

Laboratory simulator of the loading spectrum imposed by random road vibrations on an automotive part.
JL69-11-42 694614

Mathematical Analysis

Mathematical modeling approach suggested to assimilate data from vehicle safety research.
JL69-7-40 694573

Metal Forming

see also:

Extrusion Hot Forming

Fatigue life and notch toughness of spring steel much improved by modified ausforming process.
JL69-3-44 694529

Military Aircraft

Crashworthiness and tolerance to damage from small arms fire can be designed into wing aircraft.
JL69-12-28 694623

Military Vehicles

Electrical system works as well as mechanical drive train in tracked personnel carrier.
JL69-11-56 694617

Models

Mathematical model for predicting head motion in rear-end collisions shows effectiveness of yielding seatback if properly damped.
JL69-12-24 694622

Moldings

Low fabrication and tooling costs make rotomolded plastics attractive for both short and long production runs in automotive industry.
JL69-4-26 694538

Mounts

Electronics help speed General Motors' engine mount design test and shift Ford's fatigue tests from track to the laboratory.
JL69-4-46 694542

Multifuel Engines

New MAN FM combustion system allows knockless burning of any gasoline from highest octane to poorest grade. Advantages include low sfc, peak pressures, and exhaust emissions.
JL69-6-36 694561

N

Navigation

Inertial navigator gives precise dependable navigation anywhere in the world. Flight tests show accuracy is sufficient.
JL69-3-66 694536

Nickel Alloys

Elastic modulus and Poisson's ratio of sintered nickel steels depend on density alone. Heat treatment, alloy content and density all affect other mechanical properties.
JL69-7-45 694575

Nitrogen

Many variables can aid formation of deposits in empty jet fuel tanks.
JL69-11-50 694616

Noise

Stirling engine operates quietly with almost no smoke and odor and with little exhaust emission.
JL69-1-40 694504

Math quiets rotating machines.

JL69-10-53 694599

Nondestructive Testing

see:

Radiography Ultrasonics

O

Odors

Stirling engine operates quietly with almost no smoke and odor and with little exhaust emission.
JL69-1-40 694504

Oil Additives

Three mechanical tests predict viscosity losses of oils in service more accurately than sonic method.
JL69-5-36 694549

P

Packaging

Rigid seat with 28 in. high seatback protects occupant in rear-end collisions at impact speeds over 30 mph.
JL69-4-20 694537

SAE eyellipse is repositioned by simple model so that eyes may be positioned even with head turned.
JL69-5-39 694550

Four computer programs design and evaluate inside and outside rear view mirrors. Possible obstructions are considered.
JL69-6-42 694562

Passenger Car Design

Safer instrument panel designs are producing fewer leg injuries in vehicle accidents.
JL69-7-32 694571

What automobiles might be like in the year 2000.
JL69-7-63 694579

1970 passenger-car engineering highlights.
JL69-10-35 694598

Passenger Car Performance

Method outlined for improving car handling behavior without affecting handling response or damping characteristics of car.
JL69-6-54 694565

Pistons/Piston Rings/

Diesel-engine piston rings show high sensitivity to contaminated fuel.
JL69-10-54 694600

New piston ring coatings applied by plasma.
JL69-12-50 694635

Plastics

Plastics to have expanded role in auto exteriors.
JL69-1-67 694513

Low fabrication and tooling costs make rotomolded plastics attractive for both short and long production runs in automotive industry.
JL69-4-26 694538

Plastic battery cases with thinner walls and partitions leave more room for plates and acid to improve battery electrical performance.
JL69-9-52 694592

Chimpanzees survive deceleration of 150 G with aid of contoured synthetic foam restraint.
JL69-9-62 694595

Porous Materials

see:

Powder Metallurgy/Powder Metals/

Powder Metallurgy/Power Metals/

Elastic modulus and Poisson's ratio of sintered nickel steels depend on density alone. Heat treatment, alloy content and density all affect other mechanical properties.
JL69-7-45 694575

Power Transmission

see:

Automatic Transmissions

Axles Crankshafts Driveshafts Shafts/Power/

Powerplant

see also:

Diesel Engines Gasoline Engines Multifuel Engines Spark Ignition Engines Stirling Cycle Engines Turbine Engines Turbojet Engines Turbo-prop Engines Turbo-shaft Engines Wankel Rotating Combustion Engines

Probability Theory

For a proper prediction of the probability of failure, an estimate must be made of both mean values and scatter in stress and strength.
JL69-4-38 694541

Product Engineering

Application of engineering methods facilitates product planning.
JL69-5-28 694547

Government and public now have larger role in shaping automobile industry programs. Future success depends on how well industry steers its course in this new climate.
JL69-5-56 694554

Production Control

Computers are being applied to dimensional measurement in production of discrete parts.
JL69-11-32 694611

Propellers

Downwash of V/STOL aircraft depends on gross weight rather than disc loading velocities which can reach 40 knots.
JL69-4-56 694545

Protective Coatings

New piston ring coatings applied by plasma.
JL69-12-50 694635

Q

Quality Control

1970 passenger-car engineering highlights.
JL69-10-35 694598

R

Radioactive Tracers

Diesel-engine piston rings show high sensitivity to contaminated fuel.
JL69-10-54 694600

Radiography

Difficulties in inspecting beryllium parts by ultrasonic and radiographic techniques are being overcome with improved techniques and equipment.
JL69-11-27 694609

Radioisotopes

see also:

Radioactive Tracers

Rear View Mirrors

Four computer programs design and evaluate inside and outside rear view mirrors. Possible obstructions are considered.

JL69-6-42 694562

Recent test data on plane and curved rear view mirrors, developed at the University of Michigan, was discussed at a meeting of the Driver Vision and Rear Vision Subcommittees.

JL69-11-48 694615

Rear Viewing Systems

Rear-view periscope having cylindrical lens combined with a cylindrical mirror is a practical device for giving unobstructed vision.

JL69-9-42 694590

Refractory Metals

New piston ring coatings applied by plasma.

JL69-12-50 694635

Regulations

Used car safety standards to deal with parts which deteriorate.

JL69-3-43 694528

Aesthetic diesel smoke levels in both acceleration and lug down are set to begin in January 1970.

JL69-4-58 694546

Government and public now have larger role in shaping automobile industry programs. Future success depends on how well industry steers its course in this new climate.

JL69-5-56 694554

Reliability

For a proper prediction of the probability of failure, an estimate must be made of both mean values and scatter in stress and strength.

JL69-4-38 694541

Research

see also:

Crash Research

Fuel-engine research is well suited for investigations in universities.

JL69-3-51 694530

Ride Evaluation

Dynamic spring rate of rolling tire differs from that of nonrolling tire tests on new apparatus shown.

JL69-9-58 694594

Rings

see also:

Pistons/Piston Rings/

Rivets

Titanium fastener and use of interference-fit systems cut C-5A structure weight 4%.

JL69-4-54 694544

Roads

Two methods of measuring dynamic pavement loading by heavy trucks are developed.

JL69-11-60 694619

Procedures developed to measure wet skid resistance of vehicle-tire-road system.

JL69-12-58 694632

Rotor Blades

Downwash of V/STOL aircraft depends on gross weight rather than disc loading velocities which can reach 40 knots.

JL69-4-56 694545

Runways

Encouraging results from flight tests prompted construction of a test track to investigate air jets for braking on wet pavements. A single, inclined nozzle produced the best traction.

JL69-8-54 694585

S

Safety

see also:

Aircraft Safety
Antiskid Devices
Crash Research
Driver Behavior
Human Injuries
Impact Sleds
Safety Belts
Traffic Safety

Safety Belts

Two restraint systems designed solely for children are described. Rules for use of seat belt with growing child given.

JL69-1-53 694508

National Bureau of Standards automobile safety research has disclosed how differently anthropomorphic dummies respond from humans in tests of seat belts and harnesses.

JL69-7-48 694576

Suitable restraint devices and proper design can make many light plane crashes survivable.

JL69-8-56 694586

Safety Devices

Tests show vehicle passengers have best chance of survival with inflatable air bag restraint system.

JL69-1-58 694510

Rigid seat with 28 in. high seatback protects occupant in rear-end collisions at impact speeds over 30 mph.

JL69-4-20 694537

Energy-absorbing steering column reduces injury rate but drivers now impact new areas of vehicle interior.

JL69-5-60 694556

Chimpanzees survive deceleration of 150 G with aid of contoured synthetic foam restraint.

JL69-9-62 694595

Airborne cooperative time/frequency collision avoidance systems have been specified by airlines. Prototypes begin tests in 1969.

JL69-10-56 694601

Vacuum-electronic device provides rear-wheel antilocking during sudden brake applications.

JL69-11-63 694620

Seals

see also:

Gaskets
Pistons/Piston Rings/

New NSU double bank rotary engine has new dual ignition system and cast-iron abax seals.

JL69-4-30 694539

Sudden compositional change of coolant causes elastomeric seal to swell or shrink, which if elastomer has hardened may cause seal to fail.

JL69-7-37 694572

Sealing, erosion, crush, and extrusion resistance tests, and differential thermal analysis are supplementing the standard tests for evaluating gasket materials.

JL69-8-59 694587

Seats

Rigid seat with 28 in. high seatback protects occupant in rear-end collisions at impact speeds over 30 mph.

JL69-4-20 694537

SAE eyellipse is repositioned by simple model so that eyes may be positioned even with head turned.

JL69-5-39 694550

Mathematical model for predicting head motion in rear-end collisions shows effectiveness of yielding seatback if properly damped.

JL69-12-24 694622

Service Life

Laboratory simulator of the loading spectrum imposed by random road vibrations on an automotive part.

JL69-11-42 694614

Shafts/Power/

see also:

Axles
Driveshafts

Coating male portion of splines with nylon lowers friction level reducing galling, extending life.

JL69-2-50 694521

Short Haul Aircraft

V/STOL's could service city-center to city-center routes and provide shuttle service between the airport and town.

JL69-2-34 694515

Simulation

see also:

Computer Simulation

1970 passenger-car engineering highlights.

JL69-10-35 694598

Simulators

Laboratory simulator of the loading spectrum imposed by random road vibrations on an automotive part.

JL69-11-42 694614

Wayne horizontal accelerator mechanism (WHAM II) accelerates or decelerates sled or modified automobile on its own wheels up to 60G, to simulate crashes.

JL69-12-43 694634

Small Engines

Description and function of two emission control devices designed especially for needs of small displacement engine.

JL69-8-40 694582

Smokemeters

Aesthetic diesel smoke levels in both acceleration and lug down are set to begin in January 1970.

JL69-4-58 694546

Diesel smokemeter correlations established in steady state.

JL69-7-59 694578

Soil Mechanics

New techniques are being studied to increase productivity of farm and earthmoving tractors.

JL69-3-56 694533

Spacecraft Lubrication

Integrated approach needed to solve lubrication problems of space vehicles.

JL69-3-40 694527

Spark Ignition Engines

Sonic throttling intake valves give lean part-load spark-ignition engine operation.

JL69-1-45 694505

By burning a lean mixture ratio which supplies equal amounts of CO and NO it's possible to eliminate both gases from engine exhaust.
JL69-7-28 694569

Spark Plugs

New MAN FM combustion system allows knock-less burning of any gasoline from highest octane to poorest grade. Advantages include low sfc, peak pressures, and exhaust emissions.
JL69-6-36 694561

Springs

Fatigue life and notch toughness of spring steel much improved by modified ausforming process.
JL69-4-44 694529

Stainless Steels

Many variables can aid formation of deposits in empty jet fuel tanks.
JL69-11-50 694616

Standardization

Used car safety standards to deal with parts which deteriorate.
JL69-3-43 694528

Aesthetic diesel smoke levels in both acceleration and lug down are set to begin in January 1970.
JL69-4-58 694546

Statistics

see:

Probability Theory Quality Control

Steels

see also:

Alloy Steels Stainless Steels

Steering

Lane change maneuver test measures extent to which car-driver performance suffers as tire pressure balance is changed.
JL69-1-56 694509

European cars reveal variety of design changes and several entirely new models.
JL69-2-20 694514

Energy-absorbing steering column reduces injury rate but drivers now impact new areas of vehicle interior.
JL69-5-60 694556

Method outlined for improving car handling behavior without affecting handling response or damping characteristics of car.
JL69-6-54 694565

Stirling Cycle Engines

Stirling engine operates quietly with almost no smoke and odor and with little exhaust emission.
JL69-1-40 694504

STOL Aircraft

V/STOL's could service city-center to city-center routes and provide shuttle service between the airport and town.
JL69-2-34 694515

Three-dimensional potential flow method predicts V/STOL aerodynamics.
JL69-9-44 694591

Future of V/STOL aircraft may depend on use of filamentary composites.
JL69-10-64 694604

Streamlining

If automobile body is split into zones and each zone rated for aerodynamic character, the vehicle's automobile drag coefficient can be predicted within 7%.
JL69-6-52 694564

Stresses

For a proper prediction of the probability of failure, an estimate must be made of both mean values and scatter in stress and strength.
JL69-4-38 694541

Sealing, erosion, crush, and extrusion resistance tests; and differential thermal analysis are supplementing the standard tests for evaluating gasket materials.
JL69-8-59 694587

Stress Measurement

Laboratory simulator of the loading spectrum imposed by random road vibrations on an automotive part.
JL69-11-42 694614

Structures

see:

Aircraft Structures

Sulfur

Many variables can aid formation of deposits in empty jet fuel tanks.
JL69-11-50 694616

Supercharging/Superchargers/ see also:

Turbocharging/Turbochargers/

Supersonic Transports

Concorde, 747, C-5A test pilots report on their experiences during initial test flights.
JL69-7-30 694570

Surfaces

Procedures developed to measure wet skid resistance of vehicle-tire-road system.
JL69-12-58 694632

Suspension Systems

European cars reveal variety of design changes and several entirely new models.
JL69-2-20 694514

New vibration-absorbing suspension eliminates rough ride of tractor-scraper, thus reducing both operator and machine structural fatigue.
JL69-9-34 694588

1970 passenger-car engineering highlights.
JL69-10-35 694598

T

Telemetry

How to make technical reports communicate.
JL69-2-37 694516

Test Equipment

Three mechanical tests predict viscosity losses of oils in service more accurately than sonic method.
JL69-5-36 694549

Pendulum test is simple, accurate technique for evaluating thrust valve performance.
JL69-5-58 694555

Dynamic spring rate of rolling tire differs from that of nonrolling tire tests on new apparatus shown.
JL69-9-58 694594

New laboratory tools aid study of localized head and facial trauma during vehicle impact.
JL69-11-22 694608

Laboratory simulator of the loading spectrum imposed by random road vibrations on an automotive part.
JL69-11-42 694614

Two methods of measuring dynamic pavement loading by heavy trucks are developed.
JL69-11-60 694619

Propose standard fixture for testing friction materials.
JL69-12-62 694627

Tests

see also:

Engine Tests Impact Tests Wind Tunnel Testing

New oil viscosity determination may lick hot engine winter starting problems.
JL69-1-35 694503

Rigid seat with 28 in. high seatback protects occupant in rear-end collisions at impact speeds over 30 mph.
JL69-4-20 694537

Electronics help speed General Motors' engine mount design test and shift Ford's fatigue test from track to the laboratory.
JL69-4-46 694542

Pendulum test is simple, accurate technique for evaluating thrust valve performance.
JL69-5-58 694555

Sealing, erosion, crush, and extrusion resistance tests, and differential thermal analysis are supplementing the standard tests for evaluating gasket materials.
JL69-8-59 694587

In turboprop engine development the spectro-metric oil analysis procedure can uncover design weaknesses. Applied in service, trouble can be spotted before it becomes serious.
JL69-9-55 694593

1970 passenger-car engineering highlights.
JL69-10-35 694598

Thermocouples

An understanding of thermocouples reveals why patience and care overcome many problems in selecting, making, and using them. Improved stability is promised by new materials.
JL69-12-62 694629

Thermostats

Fiat 124 AC engine features redesigned thermostat and tappets.
JL69-5-35 694548

Tires

Lane change maneuver test measures extent to which car-driver performance suffers as tire pressure balance is changed.
JL69-1-56 694509

New tread pattern, plus well-braced lug, of R-1 tractor tire improves both traction and wear resistance.
JL69-2-58 694524

Method outlined for improving car handling behavior without affecting handling response or damping characteristics of car.
JL69-6-54 694565

Dynamic spring rate of rolling tire differs from that of nonrolling tire tests on new apparatus shown.
JL69-9-58 694599

Math quiets rotating machines.
JL69-10-53 694599

New LXX tire, combined with a special rim of larger diameter and narrower width handles safely in the event of a sudden flat, runs cooler, and exhibits lower cord and rim stresses.
JL69-10-60 694603

Two methods of measuring dynamic pavement loading by heavy trucks are developed.
JL69-11-60 694619

Procedures developed to measure wet skid resistance of vehicle-tire-road system.
JL69-12-58 694632

Titanium Alloys
Many variables can aid formation of deposits in empty jet fuel tanks.
JL69-11-50 694616

Tractor Scrapers
New vibration-absorbing suspension eliminates rough ride of tractor-scrappers, thus reducing both operator and machine structural fatigue.
JL69-9-34 694588

Traffic Control
New Bureau of Public Roads highway traffic systems will aid drivers, provide traffic control.
JL69-2-56 694523

Traffic Engineering
see:
Roads

Traffic Safety
Department of Transportation has reported to Congress on the role of alcohol in traffic accidents.
JL69-1-50 694506

Standardization of road signs is essential to traffic safety.
JL69-3-37 694526

Computer simulation predicts areas of accident potential for platoons of vehicles travelling at high speeds on freeways.
JL69-8-36 694581

Trailers
see also:
Truck Trailers
Longer combination trucks—tractor and two or three trailers have stopping distance comparable to shorter units.
JL69-9-68 694597

Transmissions
see also:
Automatic Transmissions

Transpiration Cooling
High turbine inlet temperature doubles specific horsepower of small turbine engines, but blade cooling is a must.
JL69-5-65 694557

Transport Aircraft
see also:
Supersonic Transports

Transportation
Engineering improvements in bus and other automotive transportation are needed to serve city goals and rider demands better.
JL69-1-62 694511

Total transportation benefits from fresh SAE contributions.
JL69-6-24 694558

Truck Design
Larger size of British trucks demands more powerful engines, better brakes.
JL69-1-24 694501

Truck Operation/Truck Performance/
Truck safety record depends on elimination of basic accident causes and injury-producing causes.
JL69-2-40 694518

Longer combination trucks—tractor and two or three trailers have stopping distance comparable to shorter units.
JL69-9-68 694597

Truck Trailers
Larger size of British trucks demands more powerful engines, better brakes.
JL69-1-24 694501

Longer combination trucks—tractor and two or three trailers have stopping distance comparable to shorter units.
JL69-9-68 694597

Tubing
Accurately finished tubing comes from hydrostatic extrusion press.
JL69-11-58 694618

Turbine Blades
High turbine inlet temperature doubles specific horsepower of small turbine engines, but blade cooling is a must.
JL69-5-65 694557

Turbine Engines
see also:
Turboshaft Engines
Turbojet Engines
Turboprop Engines
Emphasis is on maintainability when repairing jet engines on the wing.
JL69-1-51 694507

Combustor design changes offer most promise in reducing smoke from gas turbine engines. Fuel additives have yet to prove effective.
JL69-6-60 694566

Turbine Lubricants
In turboprop engine development the spectrometric oil analysis procedure can uncover design weaknesses. Applied in service, trouble can be spotted before it becomes serious.
JL69-9-55 694593

Turbocharging/Turbochargers/
Larger size of British trucks demands more powerful engines, better brakes.
JL69-1-24 694501

Turbojet Engines
Booster engines can be used on commercial transports to increase thrust during take-off and initial climb. This limited duty cycle means some parts can be shorter or simpler.
JL69-7-42 694574

Turboprop Engines
In turboprop engine development the spectrometric oil analysis procedure can uncover design weaknesses. Applied in service, trouble can be spotted before it becomes serious.
JL69-9-55 694593

Turboshaft Engines
High turbine inlet temperature doubles specific horsepower of small turbine engines, but blade cooling is a must.
JL69-5-65 694557

U

Ultrasonics

Difficulties in inspecting beryllium parts by ultrasonic and radiographic techniques are being overcome with improved techniques and equipment.
JL69-11-27 694609

V

Valves/Valve Mechanisms/

Sonic throttling intake valves give lean part-load spark-ignition engine operation.
JL69-1-45 694505

Pendulum test is simple, accurate technique for evaluating thrust valve performance.
JL69-5-58 694555

Description and function of two emission control devices designed especially for needs of small displacement engine.
JL69-8-40 694582

New vibration-absorbing suspension eliminates rough ride of tractor-scrappers, thus reducing both operator and machine structural fatigue.
JL69-9-34 694588

1970 passenger-car engineering highlights.
JL69-10-35 694598

Wayne horizontal accelerator mechanism (WHAM II) accelerates or decelerates sled or modified automobile on its own wheels up to 60G, to simulate crashes.
JL69-12-43 694634

Vanadium

Many variables can aid formation of deposits in empty jet fuel tanks.
JL69-11-50 694616

Vehicle Design

If automobile body is split into zones and each rated for aerodynamic character, the vehicle's automobile drag coefficient can be predicted within 7%.
JL69-6-52 694564

Directional Control

Lane change maneuver test measures extent to which car-driver performance suffers as tire pressure balance is changed.
JL69-1-56 694509

Method outlined for improving car handling behavior without affecting handling response or damping characteristics of car.
JL69-6-54 694565

Vehicle Safety

Tests show vehicle passengers have best chance of survival with inflatable air bag restraint system.
JL69-1-58 694510

Truck safety record depends on elimination of basic accident causes and injury-producing causes.
JL69-2-40 694518

Used car safety standards to deal with parts which deteriorate.
JL69-3-43 694528

Government and public now have larger role in shaping automobile industry programs. Future success depends on how well industry steers its course in this new climate.
JL69-5-56 694554

Energy-absorbing steering column reduces injury rate but drivers now impact new areas of vehicle interior.

JL69-5-60 694556

Safer instrument panel designs are producing fewer leg injuries in vehicle accidents.

JL69-7-32 694571

Mathematical modeling approach suggested to assimilate data from vehicle safety research.

JL69-7-40 694573

Computer simulation predicts areas of accident potential for platoons of vehicles travelling at high speeds on freeways.

JL69-8-36 694581

New LXX tire, combined with a special rim of larger diameter and narrower width handles safely in the event of a sudden flat, runs cooler, and exhibits lower cord and rim stresses.

JL69-10-60 694603

Vehicular Traffic Control

Standardization of road signs is essential to traffic safety.

JL69-3-37 694526

Vibration

New techniques are being studied to increase productivity of farm and earthmoving tractors.

JL69-3-56 694553

Electronics help speed General Motors' engine mount design test and shift Ford's fatigue tests from track to the laboratory.

JL69-4-46 694542

New vibration-absorbing suspension eliminates rough ride of tractor-scraper, thus reducing both operator and machine structural fatigue.

JL69-9-34 694588

Combination damper could cure many crankshaft vibrations.

JL69-10-69 694605

Vision

SAE eyellipse is repositioned by simple model so that eyes may be positioned even with head turned.

JL69-5-39 694550

Four computer programs design and evaluate inside and outside rear view mirrors. Possible obstructions are considered.

JL69-6-42 694562

Viscometers

Cold cranking simulator accurately and consistently predicts low temperature viscosity of engine oils.

JL69-4-33 694540

VTOL Aircraft

see also:

Helicopters

V/STOL's could service city-center to city-center routes and provide shuttle service between the airport and town.

JL69-2-34 694515

Downwash of V/STOL aircraft depends on gross weight rather than disc loading velocities which can reach 40 knots.

JL69-4-56 694545

Three-dimensional potential flow method predicts V/STOL aerodynamics.

JL69-9-44 694591

Future of V/STOL aircraft may depend on use of filamentary composites.

JL69-10-64 694604

W

Wankel Rotating Combustion Engine

New NSU double bank rotary engine has new dual ignition system and cast-iron abex seals.

JL69-4-30 694539

Warning Systems

Intra-crew alerting device gives emergency evacuation signal on flight deck and at forward and rear hostess jump seats.

JL69-3-54 694532

Wear

Coating male portion of splines with nylon lowers friction level reducing galling, extending life.

JL69-2-50 694521

In turboprop engine development the spectro-metric oil analysis procedure can uncover design weaknesses. Applied in service, trouble can be spotted before it becomes serious.

JL69-9-55 694593

Diesel-engine piston rings show high sensitivity to contaminated fuel.

JL69-10-54 694600

Welding

Nickel-copper-columbium steel combines high strength and impact resistance with excellent weldability and cold formability.

JL69-2-38 694517

High turbine inlet temperature doubles specific horsepower of small turbine engines, but blade cooling is a must.

JL69-5-65 694557

Wheels

New LXX tire, combined with a special rim of larger diameter and narrower width handles safely in the event of a sudden flat, runs cooler, and exhibits lower cord and rim stresses.

JL69-10-60 694603

Windshields

Four computer programs design and evaluate inside and outside rear view mirrors. Possible obstructions are considered.

JL69-6-42 694562

Lower laceration danger from chemically strengthened windshield.

JL69-10-70 694606

Wind Tunnel Testing

Accuracy of car wind tunnel tests not aided by moving ground plane.

JL69-9-64 694596

Wings/Aircraft/

Effectiveness and speed of computer program for airfoil analysis and design are enhanced with computer graphics.

JL69-2-44 694519

Boron-epoxy composite material saves wing box extension weight on F-111B aircraft.

JL69-5-42 694551

X

X-Ray Inspection

Difficulties in inspecting beryllium parts by ultrasonic and radiographic techniques are being overcome with improved techniques and equipment.

JL69-11-27 694609

SAE JOURNAL AUTHOR INDEX

SAE JOURNAL—JANUARY THROUGH DECEMBER, 1969—VOLUME 77

A

- Adamson, E. L.**
Plastics to have expanded role in auto exteriors.
JL69-1-67 694513
- Agarwal, P. D.**
Progress in development may some day converge with harsher pollution control requirements to make the electric car competitive.
JL69-12-38 694626
- Agnew, W. G.**
Aesthetic diesel smoke levels in both acceleration and lug down are set to begin in January 1970.
JL69-4-58 694546
- Alford, J. S.**
New tools revealed for engineering management use.
JL69-10-57 694602
- Alfrey, Jr., T.**
Sudden compositional change of coolant causes elastomeric seal to swell or shrink, which if elastomer has hardened may cause seal to fail.
JL69-7-37 694572
- Amacker, J. Z.**
Inertial navigator gives precise dependable navigation anywhere in the world. Flight tests show accuracy is sufficient.
JL69-3-66 694536
- Anderson, R. D.**
New piston ring coatings applied by plasma.
JL69-12-50 694635
- Andrus, D. C.**
Electrical system works as well as mechanical drive train in tracked personnel carrier.
JL69-11-56 694617
- Augenblick, H.**
Dinade system is anticollision device for small aircraft.
JL69-9-40 694589
- August, A.**
Boron-epoxy composite material saves wing box extension weight on F-111B aircraft.
JL69-5-42 694551

B

- Baird, J. D.**
Rigid seat with 28 in. high seatback protects occupant in rearend collisions at impact speeds over 30 mph.
JL69-4-20 694537
- Postcrash fire studies show need for rear-seat fire wall and rupture-proof fuel tank.
JL69-7-18 694567

- Bajer, J. J.**
Procedures developed to measure wet skid resistance of vehicle-tire-road system.
JL69-12-58 694632
- Barrowcliff, B. K.**
Electronics help speed General Motors' engine mount design test and shift Ford's fatigue tests from track to the laboratory.
JL69-4-46 694542
- Bascom, R. D.**
Aesthetic diesel smoke levels in both acceleration and lug down are set to begin in January 1970.
JL69-4-58 694546
- Beauvais, F. N.**
Accuracy of car wind tunnel tests not aided by moving ground plane.
JL69-9-64 694596
- Behrens, M. D.**
Three mechanical tests predict viscosity losses of oils in service more accurately than sonic method.
JL69-5-36 694549
- Bierlein, J. C.**
General Motors aluminum-babbitt bearings offer economy over heavy-duty units without sacrifice of performance.
JL69-6-34 694560
- Birrell, K. E.**
Computers are being applied to dimensional measurement in production of discrete parts.
JL69-11-32 694611
- Blackwell, J. R.**
New tools revealed for engineering management use.
JL69-10-57 694602
- Bienkiron, T. F.**
Olympus 593 lubrication system is specially designed for very high-temperature operation.
JL69-5-52 694553
- Blizard, J. R.**
Lower laceration danger from chemically strengthened windshield.
JL69-10-70 694606
- Bock, R. A.**
Fatigue life and notch toughness of spring steel much improved by modified ausforming process.
JL69-3-44 694529
- Bolt, J. A.**
Diesel fuel injected late in the power stroke meets ideal conditions for forming carbon and smoke. Lower pressure and temperature mean less atomization and evaporation.
JL69-12-42 694628

- Boulgarides, J. D.**
New tools revealed for engineering management use.
JL69-10-57 694602
- Bowler, R. K.**
V/STOL's could service city-center to city-center routes and provide shuttle service between the airport and town.
JL69-2-34 694515
- Bragg, K. R.**
Nitrogen inerting of aircraft fuel tanks protects against fires and explosions.
JL69-6-49 694563
- Brenner, R.**
Used car safety standards to deal with parts which deteriorate.
JL69-3-43 694528
- Brink, H. M.**
Rigid seat with 28 in. high seatback protects occupant in rearend collisions at impact speeds over 30 mph.
JL69-4-20 694537
- Postcrash fire studies show need for rear-seat fire wall and rupture-proof fuel tank.
JL69-7-18 694567
- Brooks, S. H.**
Safer instrument panel designs are producing fewer leg injuries in vehicle accidents.
JL69-7-32 694571
- Buttrant, J.**
Small cars emit less CO and HC when using duplex carburetion to distribute fuel more evenly.
JL69-4-50 694543

C

- Caprioglio, G.**
Progress in development may some day converge with harsher pollution control requirements to make the electric car competitive.
JL69-12-38 694626
- Carey, Jr., A. W.**
Diesel smoke meter correlations established in steady state.
JL69-7-59 694578
- Carson, Jr., W. N.**
Sealed nickel-cadmium batteries improved for space are also being applied in aircraft.
JL69-3-52 694531
- Carter, J. W.**
New vibration-absorbing suspension eliminates rough ride of tractor-scraper, thus reducing both operator and machine structural fatigue.
JL69-9-34 694588

Cassidy, D. P.

Nickel-copper-columbium steel combines high strength and impact resistance with excellent weldability and cold formability.
JL69-2-38 694517

Cherin, W. S.

New tools revealed for engineering management use.
JL69-10-57 694602

Chewning, W. A.

Energy-absorbing steering column reduces injury rate but drivers now impact new areas of vehicle interior.
JL69-5-60 694556

Chiesa, A.

Method outlined for improving car handling behavior without affecting handling response or damping characteristics of car.
JL69-6-54 694565

Christensen, G. D.

New tools revealed for engineering management use.
JL69-10-57 694602

Chute, R.

Tests show vehicle passengers have best chance of survival with inflatable air bag restraint system.
JL69-1-58 694510

Cichowski, W. G.

Two restraint systems designed solely for children are described. Rules for use of seat belt with growing child given.
JL69-1-53 694508

Energy-absorbing steering column reduces injury rate but drivers now impact new areas of vehicle interior.
JL69-5-60 694556

Clark, Jr., J. B.

Use of constant-volume sampler to weigh exhaust emissions poses variety of problems.
JL69-12-34 694624

Cole, E. N.

What automobiles might be like in the year 2000.
JL69-7-63 694579

Collins, G. C.

Brushless electric motor has been designed especially for heavy duty vehicles. It can be incorporated into integral wheel drive units.
JL69-5-46 694552

Cornish, J. J.

Effectiveness and speed of computer program for airfoil analysis and design are enhanced with computer graphics.
JL69-2-44 694519

Cortese, A. D.

Dynamic spring rate of rolling tire differs from that of nonrolling tire tests on new apparatus shown.
JL69-9-58 694594

Cox, D. B.

Cold cranking simulator accurately and consistently predicts low temperature viscosity of engine oils.
JL69-4-33 694540

Culbert, R. M.

Diesel-engine piston rings show high sensitivity to contaminated fuel.
JL69-10-54 694600

D

Dalin, G. A.

Progress in development may some day converge with harsher pollution control requirements to make the electric car competitive.
JL69-12-38 694626

De Hart, A. O.

General Motors aluminum-babbitt bearings offer economy over heavy-duty units without sacrifice of performance.
JL69-6-34 694560

Devlin, W. A.

SAE eyellipse is repositioned by simple model so that eyes may be positioned even with head turned.
JL69-5-39 694550

Four computer programs design and evaluate inside and outside rear view mirrors. Possible obstructions are considered.
JL69-6-42 694562

Dimitroff, E.

Aromatic compounds in fuels identified as main precursors of engine varnish.
JL69-7-52 694577

Dolier, G.

Proper bolting system design can greatly extend gasket life—and its overall spring constant is one of the most important factors to consider.
JL69-3-64 694535

Dukes, W. H.

Future of V/STOL aircraft may depend on use of filamentary composites.
JL69-10-64 694604

Dullberg, E.

Quenching bath of liquid nitrogen produces almost negligible distortion in sheet aluminum parts, whereas they must be straightened after water quenching.
JL69-7-25 694568

Du Pont, F. T.

Lower laceration danger from chemically strengthened windshield.
JL69-10-70 694606

Durrant, T.

Combustor design changes offer most promise in reducing smoke from gas turbine engines. Fuel additives have yet to prove effective.
JL69-6-60 694566

E

Easton, J. J.

Proper bolting system design can greatly extend gasket life—and its overall spring constant is one of the most important factors to consider.
JL69-3-64 694535

Ehlert, R. E.

Electronics help speed General Motors' engine mount design test and shift Ford's fatigue tests from track to the laboratory.
JL69-4-46 694542

Ellis, C. M.

Sealing, erosion, crush, and extrusion resistance tests, and differential thermal analysis are supplementing the standard tests for evaluating gasket materials.
JL69-8-59 694587

Engelking, F. S.

Sealing, erosion, crush, and extrusion resistance tests, and differential thermal analysis are supplementing the standard tests for evaluating gasket materials.
JL69-8-59 694587

F

Faitani, J. J.

Combustor design changes offer most promise in reducing smoke from gas turbine engines. Fuel additives have yet to prove effective.
JL69-6-60 694566

Fallon, T. J.

Minor changes allow diesel trucks with critical fuel systems to operate satisfactorily on flow-improved high cloud point fuels, at temperatures down to -30 F.
JL69-8-48 694584

Ferrarese, J. A.

Astrolog—American Airlines' new advanced flight recorder has capacity to continuously monitor both pilot and aircraft performance.
JL69-11-38 694612

Fiorello, S. C.

Combustor design changes offer most promise in reducing smoke from gas turbine engines. Fuel additives have yet to prove effective.
JL69-6-60 694566

Fiorentino, R. J.

Accurately finished tubing comes from hydrostatic extrusion press.
JL69-11-58 694618

Fitch, J. W.

Longer combination trucks—tractor and two or three trailers have stopping distance comparable to shorter units.
JL69-9-68 694597

Fleischner, P. L.

An understanding of thermocouples reveals why patience and care overcome many problems in selecting, making, and using them. Improved stability is promised by new materials.
JL69-12-52 694629

Ford, H. S.

Aesthetic diesel smoke levels in both acceleration and lug down are set to begin in January 1970.
JL69-4-58 694546

Franchi, J. T.

Concorde, 747, C5-A test pilots report on their experiences during initial test flights.
JL69-7-30 694570

Froede, W. G.

New NSU double bank rotary engine has new dual ignition system and cast-iron abex seals.
JL69-4-30 694539

G

Gabel, R. M.

High turbine inlet temperature doubles specific horsepower of small turbine engines, but blade cooling is a must.
JL69-5-65 694557

Galloway, C. W.

Integrated approach needed to solve lubrication problems of space vehicles.
JL69-3-40 694527

Garrett, J. W.

Energy-absorbing steering column reduces injury rate but drivers now impact new areas of vehicle interior.
JL69-5-60 694556

Glueckert, A. J.

No drying of gas stream needed when Gat-O-Sorb is used in regenerable carbon dioxide control systems for spacecraft.

JL69-1-32 694502

Gottlieb, A. J.

An understanding of thermocouples reveals why patience and care overcome many problems in selecting, making, and using them. Improved stability is promised by new materials.

JL69-12-52 694629

Grenier, E. P.

Two restraint systems designed solely for children are described. Rules for use of seat belt with growing child given.

JL69-1-53 694508

Groves, W. T.

Coating male portion of splines with nylon lowers friction level reducing galling, extending life.

JL69-2-50 694521

H**Hacha, T. H.**

Progress in development may some day converge with harsher pollution control requirements to make the electric car competitive.

JL69-12-38 694626

Hackman, L. E.

Future of V/STOL aircraft may depend on use of filamentary composites.

JL69-10-64 694604

Hadcock, R.

Boron-epoxy composite material saves wing box extension weight on F-111B aircraft.

JL69-5-42 694551

Halsall, V. M.

Plastic battery cases with thinner walls and partitions leave more room for plates and acid—to improve battery electrical performance.

JL69-9-52 694592

Hasbrook, A. H.

Suitable restraint devices and proper design can make many light plane crashes survivable.

JL69-8-56 694586

Hass, D. P.

Tests show vehicle passengers have best chance of survival with inflatable air bag restraint system.

JL69-1-58 694510

Heap, S. A.

Two restraint systems designed solely for children are described. Rules for use of seat belt with growing child given.

JL69-1-53 694508

Hecht, Sr., J. F.

Pendulum test is simple, accurate technique for evaluating thrust valve performance.

JL69-5-58 694555

Helsley, Jr., C. W.

Weight is saved when flywheel energy storage unit is used to help aircraft secondary power systems meet peak power demands.

JL69-1-64 694512

Henderson, R. D.

Aesthetic diesel smoke levels in both acceleration and lug down are set to begin in January 1970.

JL69-4-58 694546

Henein, N. A.

Diesel fuel injected late in the power stroke meets ideal conditions for forming carbon and smoke. Lower pressure and temperature mean less atomization and evaporation.

JL69-12-42 694628

Henry, E. K.

New tread pattern, plus well-braced lug, of R-1 tractor tire improves both traction and wear resistance.

JL69-2-58 694524

Herscovici, S.

Propose standard fixture for testing friction materials.

JL69-12-62 694627

Hight, P. V.

Safer instrument panel designs are producing fewer leg injuries in vehicle accidents.

JL69-7-32 694571

Hildebrandt, T. J.

Lane change maneuver test measures extent to which car-driver performance suffers as tire pressure balance is changed.

JL69-1-56 694509

Hills, F. J.

Diesel smoke meter correlations established in steady state.

JL69-7-59 694578

Hills, J. F.

Titanium fastener and use of interference-fit systems cut C-5A structure weight 4%.

JL69-4-54 694544

Hochheiser, S.

Combustor design changes offer most promise in reducing smoke from gas turbine engines. Fuel additives have yet to prove effective.

JL69-6-60 694566

Hodshon, J. R.

An understanding of thermocouples reveals why patience and care overcome many problems in selecting, making, and using them. Improved stability is promised by new materials.

JL69-12-52 694629

Hoer, K. L.

How to make technical reports communicate.

JL69-2-37 694516

Hoffman, G. A.

Progress in development may some day converge with harsher pollution control requirements to make the electric car competitive.

JL69-12-38 694626

Howitt, J. S.

Lower laceration danger from chemically strengthened windshield.

JL69-10-70 694606

Hudson, C. R.

Aesthetic diesel smoke levels in both acceleration and lug down are set to begin in January 1970.

JL69-4-58 694546

Huelke, D. F.

Energy-absorbing steering column reduces injury rate but drivers now impact new areas of vehicle interior.

JL69-5-60 694556

Hyde, W. L.

Rear-view periscope having cylindrical lens combined with a cylindrical mirror is a practical device for giving unobstructed vision.

JL69-9-42 694590

I**Ishizuya, A.**

Description and function of two emission control devices designed especially for needs of small displacement engine.

JL69-8-40 694582

J**Jaechel, H. R.**

Laboratory simulator of the loading spectrum imposed by random road vibrations on an automotive part.

JL69-11-42 694614

Jewel, Jr., J. W.

Loads on 15 types of aircraft are closer to design limit despite large design envelope than are loads on large transport aircraft.

JL69-8-31 694580

Johari, O.

Easy sample preparation, 30,000 magnification, and fantastic depth of field boost soaring popularity of scanning electron microscope.

JL69-12-33 694625

Johnson, J. H.

Aesthetic diesel smoke levels in both acceleration and lug down are set to begin in January 1970.

JL69-4-58 694546

Jones, P. H.

Nitrogen inerting of aircraft fuel tanks protects against fires and explosions.

JL69-6-49 694563

Justusson, W. M.

Fatigue life and notch toughness of spring steel much improved by modified ausforming process.

JL69-3-44 694529

K**Kantner, E.**

Sealed nickel-cadmium batteries improved for space are also being applied in aircraft.

JL69-3-52 694531

Katzenberger, R. H.

Combination damper could cure many crankshaft vibrations.

JL69-10-69 694605

Kaye, M. C.

Longer combination trucks—tractor and two or three trailers have stopping distance comparable to shorter units.

JL69-9-68 694597

Kayser, J. A.

Coating male portion of splines with nylon lowers friction level reducing galling, extending life.

JL69-2-50 694521

Kelley, J. D.

New LXX tire, combined with a special rim of larger diameter and narrower width handles safely in the event of a sudden flat, runs cooler, and exhibits lower cord and rim stresses.

JL69-10-60 694603

Kemmerer, R. M.

Tests show vehicle passengers have best chance of survival with inflatable air bag restraint system.

JL69-1-58 694510

Killpatrick, J. E.

Laser gyro eliminates all moving parts to form ideal system.
JL69-2-52 694522

Kim, D. S.

Cold cranking simulator accurately and consistently predicts low temperature viscosity of engine oils.
JL69-4-33 694540

Kimmel, C. C.

Nitrogen inerting of aircraft fuel tanks protects against fires and explosions.
JL69-6-49 694563

Kirtland, J. A.

Electrical system works as well as mechanical drive train in tracked personnel carrier.
JL69-11-56 694617

Kirtland, V. E.

Chimpanzees survive deceleration of 150 G with aid of contoured synthetic foam restraint.
JL69-9-62 694595

Knell, H. A.

New vibration-absorbing suspension eliminates rough ride of tractor-scrappers, thus reducing both operator and machine structural fatigue.
JL69-9-34 694588

Knudsen, S. E.

Government and public now have larger role in shaping automobile industry programs. Future success depends on how well industry steers its course in this new climate.
JL69-5-56 694554

Kober, F. P.

Progress in development may some day converge with harsher pollution control requirements to make the electric car competitive.
JL69-12-38 694626

Kravic, A. F.

Elastic modulus and Poisson's ratio of sintered nickel steels depend on density alone. Heat treatment, alloy content and density all affect other mechanical properties.
JL69-7-45 694575

Krivetsky, A.

Future of V/STOL aircraft may depend on use of filamentary composites.
JL69-10-64 694604

L**Lampredi, A.**

Fiat 124 AC engine features redesigned thermostat and tappets.
JL69-5-35 694548

Lawrence, D. K.

Diesel smoke-meter correlations established in steady state.
JL69-7-59 694578

Lawrence, G. L.

Small cars emit less CO and HC when using duplex carburetion to distribute fuel more evenly.
JL69-4-50 694543

Lennon, H.

Sealed nickel-cadmium batteries improved for space are also being applied in aircraft.
JL69-3-52 694531

Leverett, Jr., S. D.

Chimpanzees survive deceleration of 150 G with aid of contoured synthetic foam restraint.
JL69-9-62 694595

Lienesch, J. H.

Stirling engine operates quietly with almost no smoke and odor and with little exhaust emission.
JL69-1-40 694504

Lipson, C.

For a proper prediction of the probability of failure, an estimate must be made of both mean values and scatter in stress and strength.
JL69-4-38 694541

Lozano, E. R.

Combustor design changes offer most promise in reducing smoke from gas turbine engines. Fuel additives have yet to prove effective.
JL69-6-60 694566

Ludwig, W. J.

Boron-epoxy composite material saves wing box extension weight on F-111B aircraft.
JL69-5-42 694551

Lundstrom, L. C.

Energy-absorbing steering column reduces injury rate but drivers now impact new areas of vehicle interior.
JL69-5-60 694556

New laboratory tools aid study of localized head and facial trauma during vehicle impact.
JL69-11-22 694608

Luth, H. J.

New techniques are being studied to increase productivity of farm and earthmoving tractors.
JL69-3-56 694533

M**Madison, R. H.**

Vacuum-electronic device provides rear-wheel antilocking during sudden brake applications.
JL69-11-63 694620

Manning, R. E.

Cold cranking simulator accurately and consistently predicts low temperature viscosity of engine oils.
JL69-4-33 694540

Marshall, H. T.

Three mechanical tests predict viscosity losses of oils in service more accurately than sonic method.
JL69-5-36 694549

Martinez, J. L.

Mathematical model for predicting head motion in rear-end collisions shows effectiveness of yielding seatback if properly damped.
JL69-12-24 694622

Mas, J. A.

New battery charging system eliminates overcharging and undercharging over a wide temperature range while minimizing charging time.
JL69-6-31 694559

Maybell, J. L.

New tools revealed for engineering management use.
JL69-10-57 694602

McBee, L. S.

Encouraging results from flight tests prompted construction of a test track to investigate air jets for braking on wet pavements. A single, inclined nozzle produced the best traction.
JL69-8-54 694585

McCormick, H. E.

New piston ring coatings applied by plasma.
JL69-12-50 694635

McGavern, S. A.

Combination damper could cure many crankshaft vibrations.
JL69-10-69 694605

McWilliams, O. D.

New vibration-absorbing suspension eliminates rough ride of tractor-scrappers, thus reducing both operator and machine structural fatigue.
JL69-9-34 694588

Metcalfe, J. E.

Progress in development may some day converge with harsher pollution control requirements to make the electric car competitive.
JL69-12-38 694626

Meurer, J. S.

New MAN FM combustion system allows knockless burning of any gasoline from highest octane to poorest grade. Advantages include low sfc, peak pressures, and exhaust emissions.
JL69-6-36 694561

Meyer, M. A.

Quenching bath of liquid nitrogen produces almost negligible distortion in sheet aluminum parts, whereas they must be straightened after water quenching.
JL69-7-25 694568

Meyer, W. A. P.

New oil viscosity determination may lick hot engine winter starting problems.
JL69-1-35 694503

Cold cranking simulator accurately and consistently predicts low temperature viscosity of engine oils.
JL69-4-33 694540

Mick, S. H.

Use of constant-volume sampler to weigh exhaust emissions poses variety of problems.
JL69-12-34 694624

Miller, J. E.

Sudden compositional change of coolant causes elastomeric seal to swell or shrink, which if elastomer has hardened may cause seal to fail.
JL69-7-37 694572

Mills, K. D.

Aesthetic diesel smoke levels in both acceleration and lug down are set to begin in January 1970.
JL69-4-58 694546

Miyake, Y.

Japanese development of electric vehicles is progressing.
JL69-8-43 694583

Moffitt, J. V.

Aromatic compounds in fuels identified as main precursors of engine varnish.
JL69-7-52 694577

Mooney, R. J.

Progress in development may some day converge with harsher pollution control requirements to make the electric car competitive.
JL69-12-38 694626

Morelli, J. J.

Emphasis is on maintainability when repairing jet engines on the wing.
JL69-1-51 694507

Moskowitz, S. L.

High turbine inlet temperature doubles specific horsepower of small turbine engines, but blade cooling is a must.
JL69-5-65 694557

Myers, P. S.
Many possibilities exist for eliminating major pollutants from exhaust gas.
JL69-3-34 694525

Fuel-engine research is well suited for investigations in universities.
JL69-3-51 694530

Engineers are finding that sociological, political, and humanistic changes taking place may have more significance in determining what is the optimum design than previously.
JL69-12-18 694621

N

Nahum, A. M.
Safer instrument panel designs are producing fewer leg injuries in vehicle accidents.
JL69-7-32 694571

Nakagawa, K.
Description and function of two emission control devices designed especially for needs of small displacement engine.
JL69-8-40 694582

Nelson, N. E.
V/STOL's could service city-center to city-center routes and provide shuttle service between the airport and town.
JL69-2-34 694515

Nelson, R. E.
Longer combination trucks—tractor and two or three trailers have stopping distance comparable to shorter units.
JL69-9-68 694597

Newsom, W. A.
Chimpanzees survive deceleration of 150 G with aid of contoured synthetic foam restraint.
JL69-9-62 694595

Noyes, R. N.
Disc brakes with solid discs fade less at first but vented discs do better thereafter.
JL69-10-72 694607

Nuccio, P. P.
No drying of gas stream needed when Gat-O-Sorb is used in regenerable carbon dioxide control systems for spacecraft.
JL69-1-32 694502

Nyquist, G. W.
Wayne horizontal accelerator mechanism (WHAM II) accelerates or decelerates sled or modified automobile on its own wheels up to 60G, to simulate crashes.
JL69-12-43 694634

O

Ogilvie, III, A. W.
Intra-crew alerting device gives emergency evacuation signal on flight deck and at forward and rear hostess jump seats.
JL69-3-54 694532

Old, J. G.
Difficulties in inspecting beryllium parts by ultrasonic and radiographic techniques are being overcome with improved techniques and equipment.
JL69-11-27 694609

O'Neill, C. G.
Small cars emit less CO and HC when using duplex carburetion to distribute fuel more evenly.
JL69-4-50 694543

O'Neill, D. H.
1970 passenger-car engineering highlights.
JL69-10-35 694598

P

Pajas, M. R.
Four computer programs design and evaluate inside and outside rear view mirrors. Possible obstructions are considered.
JL69-6-42 694562

Patrick, L. M.
Energy-absorbing steering column reduces injury rate but drivers now impact new areas of vehicle interior.
JL69-5-60 694556

Lower laceration danger from chemically strengthened windshield.
JL69-10-70 694606

Wayne horizontal accelerator mechanism (WHAM II) accelerates or decelerates sled or modified automobile on its own wheels up to 60G, to simulate crashes.
JL69-12-43 694634

Pearce, A. F.
Three mechanical tests predict viscosity losses of oils in service more accurately than sonic method.
JL69-5-36 694549

Pelizzoni, W. J.
Aesthetic diesel smoke levels in both acceleration and lug down are set to begin in January 1970.
JL69-4-38 694546

Penn, G. R.
Electronics help speed General Motors' engine mount design test and shift Ford's fatigue tests from track to the laboratory.
JL69-4-46 694542

Peterson, I.
Intra-crew alerting device gives emergency evacuation signal on flight deck and at forward and rear hostess jump seats.
JL69-3-54 694532

Pinolini, F.
Diesel smoke meter correlations established in steady state.
JL69-7-59 694578

Platt, M.
Larger size of British trucks demands more powerful engines, better brakes.
JL69-1-24 694501

European cars reveal variety of design changes and several entirely new models.
JL69-2-20 694514

Pollone, C.
Fiat 124 AC engine features redesigned thermostat and tappets.
JL69-5-35 694548

Poskocil, A. R.
Lane change maneuver test measures extent to which car-driver performance suffers as tire pressure balance is changed.
JL69-1-56 694509

Prasse, H. F.
New piston ring coatings applied by plasma.
JL69-12-50 694635

Presser, E. R.
Sealing, erosion, crush, and extrusion resistance tests, and differential thermal analysis are supplementing the standard tests for evaluating gasket materials.
JL69-8-59 694587

Preuss, A. F.
Three mechanical tests predict viscosity losses of oils in service more accurately than sonic method.
JL69-5-36 694549

Q

Quillian, Jr., R. D.
Aromatic compounds in fuels identified as main precursors of engine varnish.
JL69-7-52 694577

R

Radtke, H. H.
Three mechanical tests predict viscosity losses of oils in service more accurately than sonic method.
JL69-5-36 694549

Rasmussen, R. E.
Dynamic spring rate of rolling tire differs from that of nonrolling tire tests on new apparatus shown.
JL69-9-58 694594

Rau, R. W.
New tools revealed for engineering management use.
JL69-10-57 694602

Reese, R. G.
Simple on-off fuel system that does not require in-flight management has been developed for light aircraft having multiple fuel tanks.
JL69-12-54 694631

Rein, S. W.
Three mechanical tests predict viscosity losses of oils in service more accurately than sonic method.
JL69-5-36 694549

Rich, M. J.
Crashworthiness and tolerance to damage from small arms fire can be designed into wing aircraft.
JL69-12-28 694623

Richards, J. H.
New tools revealed for engineering management use.
JL69-10-57 694602

Richardson, B. D.
Accurately finished tubing comes from hydrostatic extrusion press.
JL69-11-58 694618

Rightmire, R. A.
Progress in development may some day converge with harsher pollution control requirements to make the electric car competitive.
JL69-12-38 694626

Rike, A. W.
General Motors aluminum-babbitt bearings offer economy over heavy-duty units without sacrifice of performance.
JL69-6-34 694560

- Rinonapoli, L.**
Method outlined for improving car handling behavior without affecting handling response or damping characteristics of car.
JL69-6-54 694565
- Riordan, H. E.**
Vacuum-electronic device provides rear-wheel antilocking during sudden brake applications.
JL69-11-63 694620
- Ripling, E. J.**
Transition temperature of MN-MO armor steel tempered in tempered martensite embrittling range is lowered by warm working, thus improving in toughness.
JL69-3-60 694534
- Roberts, F. L.**
In turboprop engine development the spectro-metric oil analysis procedure can uncover design weaknesses. Applied in service, trouble can be spotted before it becomes serious.
JL69-9-55 694593
- Roberts, T. S.**
Ideal technical-managerial mix exists for all supervisor levels.
JL69-11-40 694613
- Reorientation is basic for an engineer seeking success in management.
JL69-12-36 694630
- Romig, B. E.**
New techniques are being studied to increase productivity of farm and earthmoving tractors.
JL69-3-56 694533
- Rosenberg, R. C.**
General Motors aluminum-babbitt bearings offer economy over heavy-duty units without sacrifice of performance.
JL69-6-34 694560
- Roth, G. W.**
Three mechanical tests predict viscosity losses of oils in service more accurately than sonic method.
JL69-5-36 694549
- Roush, M. S.**
In turboprop engine development the spectro-metric oil analysis procedure can uncover design weaknesses. Applied in service, trouble can be spotted before it becomes serious.
JL69-9-55 694593
- Rubbert, P. E.**
Three-dimensional potential flow method predicts V/STOL aerodynamics.
JL69-9-44 694591

S

- Saaris, G. R.**
Three-dimensional potential flow method predicts V/STOL aerodynamics.
JL69-9-44 694591
- Sabatino, A.**
Plastic battery cases with thinner walls and partitions leave more room for plates and acid—to improve battery electrical performance.
JL69-9-52 694592
- Sabroff, A. M.**
Accurately finished tubing comes from hydro-static extrusion press.
JL69-11-58 694618
- St. John, A. D.**
Computer simulation predicts areas of accident potential for platoons of vehicles travelling at high speeds on freeways.
JL69-8-36 694581

- Sato, Y.**
Description and function of two emission control devices designed especially for needs of small displacement engine.
JL69-8-40 694582
- Sawyer, W. J.**
Olympus 593 lubrication system is specially designed for very high-temperature operation.
JL69-5-52 694553
- Schick, G. J.**
New tools revealed for engineering management use.
JL69-10-57 694602
- Schober, T. E.**
High turbine inlet temperature doubles specific horsepower of small turbine engines, but blade cooling is a must.
JL69-5-65 694557
- Seawell, W. T.**
Astrolog—American Airlines' new advanced flight recorder has capacity to continuously monitor both pilot and aircraft performance.
JL69-11-38 694612
- Selby, T. W.**
Cold cranking simulator accurately and consistently predicts low temperature viscosity of engine oils.
JL69-4-33 694540
- Severy, D. M.**
Rigid seat with 28 in. high seatback protects occupant in rear-end collisions at impact speeds over 30 mph.
JL69-4-20 694537
- Postcrash fire studies show need for rear-seat fire wall and rupture-proof fuel tank.
JL69-7-18 694567
- Shaner, H. E.**
Booster engines can be used on commercial transports to increase thrust during take-off and initial climb. This limited duty cycle means some parts can be shorter or simpler.
JL69-7-42 694574
- Shelton, C. H.**
Nickel-copper-columbium steel combines high strength and impact resistance with excellent weldability and cold formability.
JL69-2-38 694517
- Sheth, N. J.**
For a proper prediction of the probability of failure, an estimate must be made of both mean values and scatter in stress and strength.
JL69-4-38 694541

- Shidle, N. G.**
Total transportation benefits from fresh SAE contributions.
JL69-6-24 694558
- Shuffleburger, C. L.**
New Bureau of Public Roads highway traffic systems will aid drivers, provide traffic control.
JL69-2-56 694523
- Siegel, A. W.**
Safer instrument panel designs are producing fewer leg injuries in vehicle accidents.
JL69-7-32 694571
- Silver, J. N.**
Two restraint systems designed solely for children are described. Rules for use of seat belt with growing child given.
JL69-1-53 694508

- Slabiak, W.**
Brushless electric motor has been designed especially for heavy duty vehicles. It can be incorporated into integral wheel drive units.
JL69-5-46 694552
- Electrical system works as well as mechanical drive train in tracked personnel carrier.
JL69-11-56 694617
- Slack, W. K.**
Tests show vehicle passengers have best chance of survival with inflatable air bag restraint system.
JL69-1-58 694510
- Smith, D. S.**
Plastics to have expanded role in auto exteriors.
JL69-1-67 694513
- Snelling, W. F.**
New tools revealed for engineering management use.
JL69-10-57 694602
- Snow, C. C.**
Tests show vehicle passengers have best chance of survival with inflatable air bag restraint system.
JL69-1-58 694510
- Snyder, R. G.**
Tests show vehicle passengers have best chance of survival with inflatable air bag restraint system.
JL69-1-58 694510
- Sonntag, Jr., R. W.**
Chimpanzees survive deceleration of 150 G with aid of contoured synthetic foam restraint.
JL69-9-62 694595
- Sorensen, W. N.**
Progress in development may some day converge with harsher pollution control requirements to make the electric car competitive.
JL69-12-38 694626
- Spiers, J.**
Diesel smoke-meter correlations established in steady state.
JL69-7-59 694578
- Spohn, C. R.**
New oil viscosity determination may lick hot engine winter starting problems.
JL69-1-35 694503
- Sprague, J. W.**
Progress in development may some day converge with harsher pollution control requirements to make the electric car competitive.
JL69-12-38 694626
- Stambaugh, R. L.**
Three mechanical tests predict viscosity losses of oils in service more accurately than sonic method.
JL69-5-36 694549
- Starkman, E. S.**
By burning a lean mixture ratio which supplies equal amounts of CO and NO it's possible to eliminate both gases from engine exhaust.
JL69-7-28 694569
- Starr, C. D.**
An understanding of thermocouples reveals why patience and care overcome many problems in selecting, making, and using them. Improved stability is promised by new materials.
JL69-12-52 694629
- Steele, M.**
1970 passenger-car engineering highlights.
JL69-10-35 694598
- Stewart, L. E.**
New tools revealed for engineering management use.
JL69-10-57 694602

Stewart, R. M.

New oil viscosity determination may lick hot engine winter starting problems.
JL69-1-35 694503

Cold cranking simulator accurately and consistently predicts low temperature viscosity of engine oils.
JL69-4-33 694540

Stivender, D. L.

Sonic throttling intake valves give lean part-load spark-ignition engine operation.
JL69-1-45 694505

Stringer, H. R.

Cold cranking simulator accurately and consistently predicts low temperature viscosity of engine oils.
JL69-4-33 694540

Styhr, K. H.

An understanding of thermocouples reveals why patience and care overcome many problems in selecting, making, and using them. Improved stability is promised by new materials.
JL69-12-52 694629

Swanson, S. R.

Laboratory simulator of the loading spectrum imposed by random road vibrations on an automotive part.
JL69-11-42 694614

T**Taylor, W. F.**

Many variables can aid formation of deposits in empty jet fuel tanks.
JL69-11-50 694616

Thomas, G. E.

Diesel-engine piston rings show high sensitivity to contaminated fuel.
JL69-10-54 694600

Tignor, S. C.

Accuracy of car wind tunnel tests not aided by moving ground plane.
JL69-9-64 694596

Timken, Jr., W. R.

Nontechnical executives are sometimes responsible for directing technical people. One such executive tells how and why such a combination can work successfully.
JL69-11-30 694610

Toenshoff, D. A.

An understanding of thermocouples reveals why patience and care overcome many problems in selecting, making, and using them. Improved stability is promised by new materials.
JL69-12-52 694629

Toepel, R. R.

Progress in development may some day converge with harsher pollution control requirements to make the electric car competitive.
JL69-12-38 694626

Trosien, K. R.

Lower laceration danger from chemically strengthened windshield.
JL69-10-70 694606

Turner, T. R.

Accuracy of car wind tunnel tests not aided by moving ground plane.
JL69-9-64 694596

U**Urlaub, A.**

New MAN FM combustion system allows knockless burning of any gasoline from highest octane to poorest grade. Advantages include low sfc, peak pressures, and exhaust emissions.
JL69-6-36 694561

Uyehara, O. A.

Many possibilities exist for eliminating major pollutants from exhaust gas.
JL69-3-34 694525

Fuel-engine research is well suited for investigations in universities.
JL69-3-51 694530

V**Van Kirk, D. J.**

Energy-absorbing steering column reduces injury rate but drivers now impact new areas of vehicle interior.
JL69-5-60 694556

Wayne horizontal accelerator mechanism (WHAM II) accelerates or decelerates sled or modified automobile on its own wheels up to 60G, to simulate crashes.
JL69-12-43 694634

Varteranian, J. H.

Math quiets rotating machines.
JL69-10-53 694599

Vickers, P. T.

Disc brakes with solid discs fade less at first but vented discs do better thereafter.
JL69-10-72 694607

Von Kann, C. F.

V/STOL's could service city-center to city-center routes and provide shuttle service between the airport and town.
JL69-2-34 694515

W**Wade, W. R.**

Stirling engine operates quietly with almost no smoke and odor and with little exhaust emission.
JL69-1-40 694504

Wagner, T. O.

Diesel smokemeter correlations established in steady state.
JL69-7-59 694578

Wareing, J. T.

Downwash of V/STOL aircraft depends on gross weight rather than disc loading velocities which can reach 40 knots.
JL69-4-56 694545

Weber, A. W.

Engineering executive comments on final goals report.
JL69-2-49 694520

Wegscheid, E. L.

New techniques are being studied to increase productivity of farm and earthmoving tractors.
JL69-3-56 694533

White, F. C.

Airborne cooperative time/frequency collision avoidance systems have been specified by airlines. Prototypes begin tests in 1969.
JL69-10-56 694601

White, R. G. S.

If automobile body is split into zones and each zone rated for aerodynamic character, the vehicle's automobile drag coefficient can be predicted within 7%.
JL69-6-52 694564

Whittemore, A. P.

Two methods of measuring dynamic pavement loading by heavy trucks are developed.
JL69-11-60 694619

Wang, T. P.

An understanding of thermocouples reveals why patience and care overcome many problems in selecting, making, and using them. Improved stability is promised by new materials.
JL69-12-52 694629

Wamer, R. D.

New techniques are being studied to increase productivity of farm and earthmoving tractors.
JL69-3-56 694533

Witherspoon, R. R.

Progress in development may some day converge with harsher pollution control requirements to make the electric car competitive.
JL69-12-38 694626

Wolf, R. A.

Truck safety record depends on elimination of basic accident causes and injury-producing causes.
JL69-2-40 694518

Mathematical modeling approach suggested to assimilate data from vehicle safety research.
JL69-7-40 694573

Woodall, W. R.

New LXX tire, combined with a special rim of larger diameter and narrower width handles safely in the event of a sudden flat, runs cooler, and exhibits lower cord and rim stresses.
JL69-10-60 694603

Y**Yagi, S.**

Description and function of two emission control devices designed especially for needs of small displacement engine.
JL69-8-40 694582

Young, J. W.

Tests show vehicle passengers have best chance of survival with inflatable air bag restraint system.
JL69-1-58 694510

Z**Zeif, J. D.**

No drying of gas stream needed when Gat-O-Sorb is used in regenerable carbon dioxide control systems for spacecraft.
JL69-1-32 694502

Zeitz, J. E.

Sealing, erosion, crush, and extrusion resistance tests, and differential thermal analysis are supplementing the standard tests for evaluating gasket materials.
JL69-8-59 694587

Zimmerman, A. B.

Low fabrication and tooling costs make rotomolded plastics attractive for both short and long production runs in automotive industry.
JL69-4-26 694538

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